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THE CARNIVOROUS HABITS OF THE PURPLE SALAMANDER

The experience of Messrs. Noble and Pope brings to mind several similar observations made at Ithaca where we have discovered in recent years two purple salamander stations that may be said to abound in them. One spot is where a large series of clear springs break out of a side hill to form a stream, and the other is a series of high mountain rivulets which are small ravines or nearly so. The species occurs in most of our single springs and larger ravines but its distribution is more diffuse and not so concentrated as in these two places.

In the springs above mentioned many adults and larvae were taken on a day when we were also after four-toed salamanders (*Hemidactylium scutatum*). They were all placed together. Later in the day one four-toed salamander, and a larval two-lined (*Eurycea bislineata*) salamander was missing from the tightly closed box. On another trip I lost an adult two-lined salamander in a similar way. Several times I have discovered that *Gyrinophilus* when killed in formaldehyde or alcohol has disgorged dusky and two-lined salamanders or their larvae which live in the same habitat as the purple salamander frequents.

The instant I read this interesting note I sought out a jar of recently killed purple salamanders to see what was in store and found a disgorged wood frog transformed this year. I then remembered placing three such frogs with the live salamanders. We often put dusky, mountain, two-lined, red-backed (and lead-backed phases) slimy, and purple salamanders in one terraquarium and the purples are usually liable to be carnivorous.

Personally I would hardly feel inclined to think the purple salamanders rare in New York or in Pennsylvania. In the latter state it is quite common, e.g., Professor Ralph J. Gilmore when seeking material

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for variation in pelvic girdle attachment captured with little difficulty a hundred or more adults from one reservation near his home city.

Mrs. Julia Moesel Haber in her study of our local salamander writes of its food thus:—

"The contents of the stomach reveal the fact that they are insectivorous in their habits, feeding on aquatic insects entirely. In captivity, stone-fly larvæ, black-fly larvæ, many species of Ephemeridae were relished and taken rather greedily. Young crayfish were given, the hard chitinous exo-skeleton was cast aside, but the soft parts were taken readily. On one occasion the abdominal cavity of an adult appeared to be greatly distended. At the same time it was observed that two larvæ had disappeared from the cage. The following day the same adult was completely incased with a prolific growth of Saprolegnia, which undoubtedly caused its death. Upon careful examination of the alimentary tract of the individual, it was discovered that it had devoured two larvæ of its own kind, one about 110 mm. and the other 72 mm. long. According to this particular instance, the species may be said to be cannibalistic in its habits, when in captivity. The larvæ feed on smaller aquatic insects and crustacea."

> Albert Hazen Wright Julia Moesel Haber Ithaca, N. Y.

Salamanders Wanted for Exhibition and Study.— The American Museum of Natural History would be very glad to receive any salamanders alive from any part of the United States, and is anxious to get in touch with collectors. G. K. Noble, Department of Herpetology, American Museum of Natural History, N. Y.